

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. – 42. (Cancelled)

43. (Currently Amended) A laser apparatus, comprising:

first and second reflectors defining a laser cavity;

a gain medium to emit [[a]] light along an optical path between said first and second reflectors;

a compensating member coupled to ~~at least one of~~ said first and second ~~said~~ reflectors and configured to actively thermally adjust an optical path length between said reflectors by thermally positioning the one of the first and second reflectors; and

a controller coupled to the compensating member to actively thermally control said compensating member.

44. (Previously Presented) The laser apparatus of claim 43, wherein said compensating member is to position said first reflector with respect to said second reflector.

45. (Previously Presented) The laser apparatus of claim 43, wherein said controller comprises a thermoelectric controller operatively coupled to said compensating member to thermally adjust a length of said compensating member.

46. (Previously Presented) The laser apparatus of claim 44 wherein the gain medium has first and second output facets, said first output facet to emit said light along said optical path, said first reflector positioned in said optical path, said second output facet defining said second reflector, said first reflector and said second output facet defining said laser cavity.

47. (Previously Presented) The laser apparatus of claim 44, wherein said compensating member is thermally conductive.

48. (Previously Presented) The laser apparatus of claim 44, wherein said compensating member has a high coefficient of thermal expansion.

49. (Previously Presented) The laser apparatus of claim 46, wherein said gain medium and said first reflector are passively athermalized with respect to each other.

50. (Previously Presented) The laser apparatus of claim 43, further comprising:
a detector associated with said laser cavity and configured to detect losses associated with said laser cavity; and
a controller operatively coupled to said compensating element and said detector and configured to thermally adjust a length of said compensating member according to error signals derived from said detector.

51. (Previously Presented) The laser apparatus of claim 50, further comprising a dither element operatively coupled to said laser cavity and configured to introduce frequency modulation to said laser cavity.

52. – 57. (Cancelled)

58. (Currently Amended) A method for generating a tunable optical output, comprising:
emitting the optical output from a first facet of a gain medium along an optical path;
reflecting said optical output from an end reflector positioned in said optical path, said end reflector and a second facet of said gain medium defining a resonant cavity; and
actively controlling an optical path length of said resonant cavity by actively thermally adjusting a length of a compensating member coupled to position said end reflector.

59. (Previously Presented) The method of claim 58, wherein said actively controlling said compensating member comprises heating or cooling said compensating member with a thermoelectric controller coupled to said compensating member.

60. (Previously Presented) The method claim 58, further comprising passively athermalizing said resonant cavity.

61. (Previously Presented) The method of claim 58, further comprising monitoring losses associated with said resonant cavity.

62. (Previously Presented) The method of claim 61, wherein said monitoring comprising monitoring voltage across said gain medium.

63. (Previously Presented) The method of claim 61, further comprising introducing a frequency modulation into said resonant cavity.

64. (Previously Presented) The method of claim 61, wherein said thermally adjusting is carried out according to error signals derived from said monitoring of said frequency modulation introduced to said resonant cavity.

65. (Currently Amended) A laser apparatus, comprising:
first and second reflectors defining a laser cavity;
means to emit light along an optical path between said reflectors; and
means for actively thermally adjusting a length of the optical path between said reflectors, wherein said actively thermally adjusting means comprises a compensating member to thermally position said first reflector.

66. (Cancelled)

67. (Currently Amended) The laser apparatus of claim [[66]]65, wherein said thermally adjusting means further comprises a thermoelectric controller to thermally adjust a length of said compensating member.

68. (Previously Presented) The laser apparatus of claim 65, further comprising means for passively thermally stabilizing said laser cavity.